

REMARKS

Status of Claims

Claims 1-12 are pending in the present application. Claims 1-5, 8-9, and 12 have been rejected under 35 U.S.C. 102(b), and claims 5-7 and 10-12 have been rejected under 35 U.S.C. 103(a). Claims 1 and 2 have been amended to remedy various informalities including grammatical errors and antecedent basis.

Rejection under 35 U.S.C. 102(b)

The Examiner has rejected claims 1-5, 8-9, and 12 under 35 U.S.C. 102(b) as being anticipated by prior art references, Howe et al (U.S. Patent No. 4,103,291), Jonassen (U.S. Patent No. 3,791,711), and Kozlowski (U.S. Patent No. 3,906,273).

In response, Applicant respectfully submits that the anticipation rejection may not be maintained because the relied upon prior art references individually do not teach each and every element as recited by Applicant.

Applicant recites a surge absorber comprising a one piece cylindrical housing, a pair of lead terminals having broadened tips forming a discharge electrode, and sealing spacers which are fitted and fixed on the lead terminals, and are fixed airtightly on the housing. Each of the prior art references fails to teach at least one of these elements as recited by Applicant. Accordingly, none of the references relied upon by the Examiner in the outstanding Office Action anticipate Applicant's invention. Reconsideration and withdrawal of the rejection under 35 U.S.C. 102(b) are respectfully requested.

Herein below, the Examiner's rejection reasoning, and Applicant's remarks thereto will be discussed in detail relative to the particular claims.

Claims 1 and 5

Claims 1 and 5 have been rejected under 35 U.S.C. 102(b) as being anticipated by Howe. The Examiner states that Howe discloses the claimed invention at Figure 1 where 13 and 16 comprise the sealing spacers and the portions emanating through 13 are leads with broadened tips enlarged after the location of reference numeral 24.

However, according to Figure 1 of the Howe reference, a vacuum envelope 11 includes a cylindrical insulating side wall 12, and metallic end walls 13 and 14. The end walls 13 and 14 are sealed to the side wall 12 by means of vacuum seals 16 and 17 (col. 2, lines 56-61). The side wall 12 includes portions 12a and 12b with a ring shaped support 19 supported and sealed therebetween. The ring 19 supports a metallic shield 21 (col. 2, lines 63-66). The end wall 14 supports a stationary electrode 22, and the end wall 13 supports a movable electrode 24. The electrode is supported from the wall by a bellow 26 having one end sealed to the end wall 13 and the other to the electrode. The electrode 24 may be moved toward and away from the electrode 22 so that its contact 27 may make electrical contact with the contact 23.

Now, turning to Applicant's invention, claim 1 recites a surge absorber without chips. The surge absorber is recited as comprising a pair of lead terminals, each having a lead portion and a broadened tip forming a discharge electrode; two sealing spacers, each being fitted and fixed on the lead portion of the lead terminal; and a one piece cylindrical housing. Further, Applicant recite the pair of lead terminals having the

sealing spacers fixed thereon as being inserted from open ends on both sides of the housing. The two sealing spacers are recited as being fixed airtightly on the housing while the discharge electrodes are held in position facing one another with a predetermined distance therebetween.

The structure of the surge absorber of the present invention can be easily distinguished from that of the system as shown in Figure 1 of the Howe reference.

First, Howe's envelope is not formed of a single piece cylindrical form. As discussed above, Howe's envelope 11 includes the side wall 12 having portions 12a and 12b, with the ring shaped support 19 sealed therebetween for supporting the metallic shield 21. The metallic shield serves to intercept any metal particles, the absence of the metallic shield results in shorting the end walls 13 and 14 (col. 3, lines 1-4).

At this point, Applicant respectfully draws the Examiner's attention to the fact that Howe discloses a circuit interrupter which is clearly distinct from a surge absorber. In the circuit interrupter, a metallic shield is an essential element. In the Howe reference, to support such a metallic shield, the ring shaped support 19 is inserted between two portions 12a and 12b of the side wall 12. Thus, the envelope 11 is not and cannot be of a one piece cylindrical form. Howe does not teach, expressly or implicitly, a housing of a one piece cylindrical form as recited by Applicant.

Second, Howe's electrodes are distinct from a pair of lead terminals as recited by Applicant. As is well known, in the circuit interrupter, at least one terminal should be movable in order to interrupt a flow of current as needed. Therefore, Howe's circuit interrupter includes the stationary electrode 22 and the movable electrode 24.

In contrast, in Applicant's invention, the discharge electrodes formed on

broadened tips of lead terminals are recited being held in the housing facing one another with a predetermined distance therebetween. Clearly, Howe does not teach this element of Applicant's invention.

Third, Howe's end walls 13 and 14 or seals 16 and 17 are distinguished from the sealing spacer as recited by Applicant. The end wall 13 of Howe is not fixed on the movable electrode 24. Howe teaches the use of the bellow 26 between the end wall 13 and the movable electrode 24 such that the electrode 24 is movable. As clearly shown in Figure 1 of the Howe reference, the seals 16 and 17 do not make a direct contact with electrodes 22 and 24.

In contrast, in Applicant's invention, sealing spacers are recited as being fixed and fitted on the lead terminals and in such a way so as to be fixed airtightly on the housing. That is, Applicant's sealing spacers directly contact the lead terminals while sealing the housing. This element of the present invention is clearly not taught by Howe.

As evident from the above analysis, the Examiner's argument is contrary to the teachings of Howe. The Examiner argues that the end wall 13 and the seal 16 comprise sealing spacers, however, these two components, singularly or in combination, do not form a structural relation with the envelope 11 and electrodes 22 and 24 in any way analogous to Applicant's invention. Further, the Examiner argues that the envelope 11 of Howe is cylindrical, however, the envelope 11 cannot be made of a one piece cylindrical form, as recited by Applicant.

For at least the foregoing reasons, Howe fails to teach an absorber comprising a pair of lead terminals, two sealing spacers and a housing having a structural

interconnection as recited in claim 1 of the present application.

To anticipate a claim, a prior art reference must teach each and every element of the claimed invention. As discussed above, Howe does not teach each and every element as recited in claim 1 of the present application. Therefore, claim 1 is not anticipated by the Howe reference. Reconsideration and withdrawal of the rejection of claim 1 under 35 U.S.C. 102(b) are respectfully requested.

Claim 5 depends from claim 1, thus includes all the limitation and further defines the sealing spacers as having a shape of a sphere or a cylinder with a central fitting through-hole in which the lead terminals are inserted. Therefore, for at least the same reasons applied to claim 1, claim 5 is not anticipated by the Howe reference. Accordingly, Applicant respectfully requests reconsideration and withdrawal of the rejection of claim 5 under 35 U.S.C. 102(b).

Claims 1-2, 5 and 9

The Examiner has rejected claims 1-2, 5 and 9 under 35 U.S.C. 102(b) as being anticipated by Jonassen. The Examiner states that Jonassen discloses the claimed invention at Figure 6 where elements represented by reference numeral “22” comprise sealing spacers, and elements represented by reference numeral “39” are leads.

Applicants respectfully submit that the Examiner’s arguments are based upon a misunderstanding of the reference.

Referring to Figure 6 of the Jonassen reference, the elements 22 represent a hollow member. Each hollow member 22 is formed with an outer diameter substantially equal to an inner diameter of a side wall 12 of a housing 10, and a length

slightly less than the distance between each end of the housing 10 (col. 3, lines 44-48). Therefore, the “*hollow*” member 22 of the Jonassen reference cannot air-tightly seal a one piece cylindrical housing as recited by Applicant. Sealing spacers as recited by Applicant in claim 1 are clearly distinguished from the hollow member 22 of Jonassen.

In Applicant’s claim 2, the sealing spacers are recited as being welded on an inside wall of the housing to airtightly seal the one piece cylindrical housing. This element is clearly not taught by Jonassen.

Further, in the Jonassen reference, an electrode 32 is comprised of a shaft 33 extending between opposing ends 38 and 39, and including a stop 34 formed thereon (Fig. 4 and col. 4, lines 6-12). However, the electrode rode 32 does not have a broadened tip forming a discharge electrode as recited by Applicant. As clearly shown in Figures 6 and 4, the end 38 has a diameter smaller than that of the shaft 33, which is contrary to the teachings of Applicant. Applicant’s figures 1 and 10-15 show various embodiments of the broadened tip according to the present application. Jonassen fails to teach a discharge electrode formed on a broadened tip of a terminal as recited in claims 1 and 2 of the present application.

For at least the foregoing reasons, claims 1 and 2 are not anticipated by the Jonassen reference. Accordingly, Applicant respectfully requests reconsideration and withdrawal of the rejection of claims 1 and 2 under 35 U.S.C. 102(b).

Claims 5 and 9 are believed to be allowable as variably depending from what is now submitted as allowable independent claims 1 and 2, respectively. Accordingly, Applicant requests that claims 5 and 9 be passed to issue.

Claims 1-4 and 8-9

Claims 1-4 and 8-9 have been rejected under 35 U.S.C. 102(b) as being anticipated by Kozlowski.

The Examiner states that Kozlowski discloses that claimed invention at Figure 1, in which reference numerals 1 and 2 comprise sealing spacers and leads 10 and 20 emanate therethrough.

Kozlowski discloses a spark gap apparatus for a capacitor discharge circuit that is characterized by an additional element of a flanged sleeve 3 that allows one of the electrodes to be adjusted before the apparatus is hermetically sealed (col. 1, lines 51-55). Referring to Figure 1 of the Kozlowski reference, a second electrode 20 is maintained by the sleeve 3 along the central axis of the enclosure (col. 3, lines 52-53). The sleeve 3 is positioned by an inner plate 31 which prevents the sleeve 3 and a base 2 from falling into the enclosure during assembly process (col. 3, lines 57-60).

Contrary to the Examiner's argument, the base 2 is distinguished from the sealing spacer as recited by Applicant in claims 1 and 2. The base 2 does not directly contact the second electrode 20. Between the base 2 and the electrode, the sleeve 3 is positioned. That is the base is not fixed and fitted to the electrode in any way analogous to Applicant's recitation.

Further, figure 3 of the reference shows that the device is *hermetically sealed* by soldering or silver alloy brazing the sleeve 3 and electrode 20 (col. 4, 10-12). Thus, the base 2 does not airtightly seal the device as in Applicant's invention.

For at least the foregoing reasons, Kozlowski fails to teach each and every element of claims 1 and 2 of the present application. Therefore, claims 1 and 2 are not

anticipated by the Kozlowski. Accordingly, Applicant requests reconsideration and withdrawal of the rejection of claims 1 and 2 under 35 U.S.C. 102(b).

Claims 3-4 and 8-9 are believed to be allowable as variably depending from what are now believed to be allowable independent claims 1 and 2, respectively. Accordingly, Applicant respectfully requests that claims 3-4 and 8-9 be passed to issue.

Claims 5 and 12

The Examiner has rejected claims 5 and 12 under 35 U.S.C. 102(b) as being anticipated by Kozlowski.

Claim 5 variably depends from claim 1, and claim 12 variably depends from claim 2. Thus, claims 5 and 12 include all the limitations of the base claim and further include an additional limitation. Therefore, for at least the same reasons stated above with regard to the rejection of claims 1-4 and 8-9, claims 5 and 12 are not anticipated by the Kozlowski reference. Reconsideration and withdrawal of the rejection of claims 5 and 12 are respectfully requested.

Rejection under 35 U.S.C. § 103(a)

Claims 5-7 and 10-12 have been rejected under 35 U.S.C. 103(a) as being unpatentable over prior art references.

In response, Applicant respectfully submits that the obviousness rejection may not be maintained because all the limitations of Applicant's invention as recited in claims 5-7 and 10-12 are not found in the prior art references, individually or in any combination. Further, there is no suggestion or motivation, in the references themselves

or in the knowledge generally available to one of ordinary skill in the art, to combine or modify their teachings to form Applicant's. Further, there is no reasonable expectation of success to combine the teachings of the references. Therefore, a *prima facie* case of obviousness does not exist in Applicant's invention with regard to the cited and relied upon references. Reconsideration and withdrawal of the obviousness rejection of claims 5-7 and 10-12 are respectfully requested.

Claims 5 and 12

Particularly, as to claims 5 and 12, the Examiner states that it would have been obvious to backfill and flush until the desired cleanliness is obtained where repeated flushing for cleaning is disclosed, for the purpose of getting the air as clean as possible, in view of Kozlowski.

Claim 5 further defines the shape of the sealing spacers as having a shape or a cylinder with a central fitting through-hole in which the lead portions of the terminals are inserted, in addition to all the limitations of claim 1.

Claim 12 variably depends from claim 2 and recites an air chamber provided in the housing.

As mentioned, claims 5 and 12 each variably depend from what is now believed to be allowable claims 1 and 2. Therefore, claims 5 and 12 are allowable. Reconsideration and withdrawal of the outstanding obviousness rejections are requested.

Notwithstanding the aforementioned, Applicant submits that *prima facie* obviousness does not exist with respect to the rejection of claims 5 and 12.

For an obviousness rejection to be proper, the Examiner must meet the burden of

establishing a *prima facie* case of obviousness. Establishing a *prima facie* case of obviousness requires that all the limitations of the claimed invention be disclosed or suggested in the prior art. And, there must be a reasonable expectation of success in combining the teachings of the prior art references. Further, there should be a suggestion or motivation to combine or modify the references to make the claimed invention in the references themselves or in the knowledge generally available to one of ordinary skill in the art.

Now turning again to the Kozlowski reference, the device is characterized by the sleeve (col. 1, lines 51-55), which is positioned between the base 2 and the second electrode 20. As discussed above, the device is not completely sealed by the base 2, but sealed by soldering the sleeve 3 and the second electrode 20. All the limitations of Applicant's invention are not taught or suggested by Kozlowski. Further, the teachings of Kozlowski are not consistent with a conclusion that there exists a suggestion or motivation to modify the base 2 as being fixed on the second electrode 20 and airtightly sealing the device, as recited by Applicant. Particularly, considering that Kozlowski admits the characteristic feature of the device as using the sleeve 3, there exists no reasonable expectation of success in modifying the teachings such to omit the sleeve 3 and fix the base 2 on the second electrode 20.

Thus, *prima facie* obviousness does not exist with regard to claims 5 and 12 in view of Kozlowski.

For at least the foregoing reasons, the obviousness rejection of claims 5 and 12 is improper. Accordingly, Applicant respectfully requests reconsideration and withdrawal of the rejection of claims 5 and 12 under 35 U.S.C. 103(a).

Claims 6-7 and 10-11

Claims 6-7, and claims 10-11 have been rejected as being obvious over Jonassen or Kozlowski, in view of Harada.

The Examiner states that the Jonassen and Kozlowski references disclose the claimed invention except for the lead wires being taught by Dumet, and Harada (U.S. Patent No. 4,317,155) discloses such a lead wire at col. 6 for the purpose of forming leads that penetrate glass. The Examiner further states that it would have been obvious in view of Harada to form lead wires of Dumet for penetrating the glass of the other two references.

Claims 6-7 and 10-11 variably depend from what are submitted to be allowable independent claims 1 and 2. Accordingly, claims 6-7 and 10-11 are allowable.

Notwithstanding the aforementioned, Applicant submits that *prima facie* obviousness does not exist with regard to claims 6-7 and 10-11 in view of the relied upon references.

Apparatus claims must be distinguished from prior art in terms of structure rather than function. MPEP § 2114. That is, in a claim directed to an apparatus, its patentability is determined over a prior art reference depending on whether all the “structural” limitations of the claimed invention are disclosed or suggested in the reference.

The teachings of Harada are related only to materials, not structure of the device. As clearly shown in Figure 2, Harada’s surge absorber is distinguished from the surge absorber of Applicant in terms of the structure.

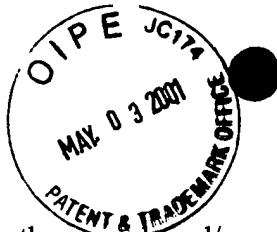
Therefore, combining the teachings of Harada with Jonassen cannot remedy deficiencies of Jonassen as discussed above. Structural interconnection relations among components of Jonassen is not modified to make Applicant's invention by such a combination. Likewise, combining the teachings of Harada with Kozlowski cannot remedy deficiencies of Kozlowski. Accordingly, there is no reasonable expectation of success in forming Applicant's invention by combining the teachings of Harada with Jonassen or Kozlowski. Thus, there exists no *prima facie* obviousness with regard to this combination of references.

In light of the above discussion, claims 6-7 and 10-11 are not rendered obvious by Jonassen or Kozlowski in view of Harada. Accordingly, Applicant respectfully requests reconsideration and withdrawal of the rejection of claims 6-7 and 10-11 under 35 U.S.C. 103(a).

Conclusion

In conclusion, claims 1-5 and 8-12 are not anticipated by the relied upon prior art references because each of the references does not disclose and teach each and every element of Applicant's invention as recited in claims 1-5 and 8-12. Further, claims 5-7 and 10-12 are not rendered obvious by the Jonassen, Kozlowski, and Harada, in any combination thereof, because they fail to meet the three basic requirements with regard to a *prima facie* case of obviousness. Accordingly, withdrawal of the rejections is requested. Issuance of claims 1-12 is respectfully solicited.

Further, the present amendment introduces no new matter, as support is found throughout the originally filed specification and claims. No new issues requiring



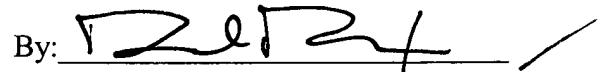
further search and/or consideration are raised herein. The amendment places the application in condition for allowance or, in the alternative, the amendment places the application in better form for appeal. Thus, in accordance with 37 C.F.R. §1.116 and as per MPEP §714.12, entry of the amendment is respectfully requested.

It is believed that the foregoing amendments and remarks fully comply with the Office Action and that the claims, as amended herein, are now allowable to Applicant. Thus, reconsideration and allowance are respectfully requested.

The Examiner is invited to contact Applicant's attorneys at the below-listed phone number regarding this response or otherwise concerning the present application.

A petition for a two-month extension of time is included herewith. The petition includes an authorization to charge the required extension fee to Deposit Account No. 06-1130 maintained by Applicant's attorneys. If there are any other charges due with respect to this Amendment or otherwise, please charge them to Deposit Account No. 06-1130 maintained by Applicant's attorneys.

Respectfully submitted,
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Version with Markings to Show Changes Made

A “marked up” version of claim 1 follows:

“1. (Amended Twice/Marked up) A surge absorber without chips, comprising:
a pair of lead terminals, each having a lead portion and a broadened tip[s]
forming a discharge electrode[s];
sealing spacers fitted and fixed on the lead portion[s] of said lead terminal[s];
and
a one piece cylindrical housing; wherein
said pair of lead terminals each having said sealing spacer[s] fixed thereon are
inserted from open ends on both sides of said housing, and the two sealing spacers are
fixed airtightly on said housing while the discharge electrodes are held in [position] said
housing facing one another [at] with a predetermined distance therebetween.”

A “marked up” version of claim 2 follows:

“2. (Amended Twice/Marked up) A surge absorber without chips, comprising:
a pair of lead terminals, each having a lead portion and a broadened tip[s]
forming a discharge electrode[s];
sealing spacers fitted and fixed on the lead portion[s] of said lead terminal[s];
and
a one piece cylindrical housing; wherein

said pair of lead terminals each having said sealing spacer[s] fixed thereon are inserted from open ends on both sides of said housing, and the two sealing spacers are welded on an inside wall of said housing to airtightly seal said housing while the discharge electrodes are held in [position] said housing facing one another [at] with a predetermined distance therebetween."